REMARKS

Claims 1-36 and 51-80 are pending in the application. Claims 37-50 have been canceled as directed to a non-elected invention. Claim 1, 8, 24, 25, 27, 29, 34, 35, and 51 have been amended. Claims 52-80 have been added. Support for the amendments and new claims can be found in the specification at, e.g., page 14, lines 19-20; page 15, lines 22-23; page 15, lines 29-32; and page 39, lines 3-33. These amendments and new claims add no new matter.

New claims 52-73 are copied from claims 1-20 and 66-67 of U.S. Application Serial No. 09/266,463, filed March 11, 1999, now abandoned, of which the present application is a continuation-in-part. In addition, since the Examiner has stated (in an Office Action in U.S. Application Serial No. 09/266,463, mailed September 12, 2000) that the added claims are, like the elected claims 1-36, directed to a polymeric composition comprising a polymer microparticle and DNA, applicants submit that the added claims are properly within the elected restriction group.

All of the pending claims are within the elected restriction group. New claims 52-73 and 77-80 read on the elected species "a DNA encoding a peptide which binds to an MHC class I molecule" and "a sequence which traffics to the endoplasmic reticulum." New claims 52, 53, and 55-80 read on the elected species "an anionic lipid."

35 U.S.C. §102(e)

At page 8 of the Office Action, the Examiner rejected claims 1-7, 34, and 51 as allegedly anticipated by Roth et al., U.S. Patent No. 5,879,713 ("Roth"). According to the Examiner,

> Roth *et al.* teach a direct transfection method of employing a plurality of microparticles comprising a polymeric matrix, a lipid, a plasmid DNA coding for a protein of interest and a stabilizer compound, wherein the liposome complexed with the DNA is encapsulated within the microparticles, *e.g.*, column 3, lines 5-14, 40-61; entire column 6; column 7, lines 31-67; column 9, lines 1-9; column 9 bridging column 10; and columns 15 to 16.
>
> Absent evidence to the contrary, the plasmid DNA and the microparticles of Roth *et al.* have all of the properties of the cited claims.

As amended, independent claim 1 is directed to a microparticle that is less than about 20 microns in diameter and contains a polymeric matrix, a lipid, and a nucleic acid molecule, wherein the microparticle does not contain a liposome or a cell. Similarly, independent claims 8, 52, and 72 each require that the microparticle of the claimed composition not contain a liposome or a cell

As noted by the Examiner in the portion of the Office Action reproduced above, Roth discloses *liposomes* that contain plasmid DNA. However, the currently pending claims require that the microparticle *not* contain a liposome (i.e., the claims require that a lipid be present in the nucleic-acid containing microparticle, but not form a liposome that encapsulates the microparticle). Because Roth fails to describe a microparticle that (1) contains a nucleic acid molecule and a lipid, and (2) is not a liposome, the reference does not anticipate any of claims 1-36 or 51-80. Accordingly, applicants request that the Examiner withdraw the rejection.

35 U.S.C. § 103(a)

At pages 8-10 of the Office Action, the Examiner rejected claims 1, 5, 6, 8-16, 18-21, 23, 26, 33-36, and 51 as allegedly unpatentable over Roth in view of Jones et al.(1996) Int'l Meeting on Nucleic Acid Vaccines ("Jones") and further in view of Hedley et al., U.S. Patent No. 5,783,567 ("Hedley I") and Hedley et al., WO 98/31398 ("Hedley II"). According to the Examiner,

> Roth *et al.* does not teach specific limitations including the use of a targeting molecule linked to the nucleic acid, stabilizers compounds including carbohydrates, specific lipid compounds including CTAB, phospholipid and phosphatidylcholine, the ratio of lactic acid to glycolic acid in the copolymer and the use of a proteinaceous antigenic determinant in preparation of microparticles/lipid/DNA complexes.
>
> However, at the time the invention was made, Jones teaches a method of employing microparticles having a diameter of no more than 10 ug composed of PLGA for delivering supercoiled plasmid DNA coding for any immunogenic protein known in the prior art (entire document). Route of administration including delivery into a mucosal tissue is also taught in Jones. Jones also teaches ratio by weight that encompasses the ratios employed in the as-filed specification.

As detailed above, Roth fails to describe a microparticle that (1) contains a nucleic acid molecule and a lipid, and (2) is not a liposome. Jones does not add what is lacking in Roth. In particular, Jones nowhere discloses a non-liposome microparticle that contains a lipid and a nucleic acid. Accordingly, nothing in Jones would have provided the skilled artisan, as of the filing date of the present application, with requisite suggestion or motivation to modify a composition of Roth to arrive at the claimed microparticles and preparations of the present invention. In addition, because the combination of Roth and Jones fail to suggest the compositions of independent claims 1, 8, 52, and 72, Jones's citation by the Examiner as allegedly describing specific limitations of several dependent claims is necessarily insufficient to overcome the cited references' failure to render obvious microparticles having the features recited in the independent claims and thus required by all claims that depend therefrom.

The present application claims priority from U.S. Provisional Application Number 60/035,983, filed January 22, 1997, and International Application Number PCT/US98/01499, filed January 22, 1998. Application Number 60/035,983 was filed on the same day and contains the same disclosure as the application that gave rise to U.S. Patent No. 5,783,567 (Hedley I). Application Number PCT/US98/01499 was published as publication number WO 98/31398 (Hedley II). Accordingly, the present application claims priority from the filing dates of each of Hedley I and Hedley II for all material disclosed in each of the respective applications. The first page of the specification has been amended by an amendment contained herein to recite the priority claim, which was presented with the filing of the application and is of record on the filing receipt.

In light of these comments, applicants respectfully request that the Examiner withdraw the above rejection.

Obviousness-Type Double Patenting

At pages 10-11 of the Office Action, the Examiner rejected claims 1-16, 18-21, 23, 26, 33-36, 51-53, and 55-73 under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1-6 of commonly assigned U.S. Patent No. 5,783,567 ('567 patent) taken with Roth, Jones, and page 40 of the as-filed specification.

Applicants respectfully traverse the rejection in view of the following remarks.

"Obviousness-type double patenting requires rejection of an application claim when the claimed subject matter is **not patentably distinct** from the subject matter claimed in a commonly owned patent when the issuance of a second patent would provide unjustified extension of the term of the right to exclude granted by a patent." MPEP § 804 (emphasis in original). The first inquiry in determining whether there may be a basis for a nonstatutory double patenting rejection is the following: "does any claim in the application define an invention that is merely an obvious variation of an invention claimed in the patent?" Id. If the answer to this question is "yes," then an obviousness-type nonstatutory double patenting rejection may be appropriate. Id.

The microparticles of the claimed invention (1) contain a nucleic acid molecule and a lipid, and (2) are not liposomes. Nothing in any of claims 1-32 of the '567 patent describes or suggests modifying a claimed microparticle to include a lipid but avoid creating a liposome with such a lipid. In addition, as detailed herein, nothing in either Roth or Jones suggests modifying a nucleic acid-containing microparticle to contain a lipid, wherein the new lipid-containing microparticle is not a liposome. Accordingly, the use of a lipid in a microparticle preparation of claims 1-32 of the '567 patent is not merely an obvious variant of those claims. Because the pending claims of the present application do not define inventions that are obvious variations of an invention claimed in the '567 patent, the issuance of a patent from the present application would not constitute an unjustified extension of the rights granted to the assignee in the '567 patent.

In light of these comments, applicants request that the Examiner withdraw the rejection.

35 U.S.C. §112, Paragraph 1 (Enablement)

At pages 2-7 of the Office Action, the Examiner rejected claims 8, 23, 34-36, and 51 as allegedly not enabled. At pages 2-3 of the Office Action, the Examiner acknowledged that claims 8, 23, 34-36, and 51 would be enabled if amended to limit the subject matter encompassed by the claims to certain embodiments specified in the Office Action.

Claims 8, 24, 25, 27, 29, 34, 35, and 51 have been amended to the scope for which the Examiner has acknowledged enablement. Claim 23 has been canceled. Applicants have amended and canceled claims to facilitate prosecution of the present application, but reserve the right to pursue the canceled subject matter in a continuation application. Applicants request that the Examiner withdraw the rejection.

Conclusions

Enclosed is a Petition for Extension of Time and a check for the Petition for Extension of Time fee and excess claims fees. Please apply any other charges or credits to deposit account 06-1050, referencing Attorney docket No. 08191-014002.

Respectfully submitted,

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